

Dual-function Fireplace Poker

The present invention was described in Disclosure Document 507960.

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Technical Field

This invention relates to fireplace implements. More particularly, it relates to a
10 dual-function fireplace poker, whose dual-function, includes the ability to manipulate
logs within a fireplace as well as the ability to deliver air from the lungs of the user to
embers contained within the fireplace, to enhance the burning of the wood or other fuel
contained within the fireplace.

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Background

Fireplaces within various dwellings have been known since ancient times as being
the location within which fires are contained and maintained, in order to provide a source
of heating for the dwelling when external temperatures have dropped to less than
comfortable levels, such as during the winter season. A fireplace is typically made of
20 stone or other masonry, but may also comprise a cast iron shell, such as in the case of pot
bellied stoves and other like contrivances. Typically wooden pieces, logs, or coal are
used alone or in combination with one another as the fuel source for fireplaces, and the
fuel may either reside on a flat floor portion within the fireplace, or may reside on a
fireplace grate, andirons, or other supportive fixtures.

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Owing to the non-uniform shape of most fireplace fuels, during the combustion
process it is quite common for only one side of a log or piece of coal to be consumed, and
it is often desirable from time to time to turn the log or other fuel to enable more

complete combustion of the fuel. Since fires are in general very hot, it is common practice to use a rod like device to assist in turning or otherwise rearranging the configuration of the fuel in a fireplace. Thus, over the ages a great number of tools have been designed for this purpose, and one of the most common fireplace tools is known
5 simply as a "poker".

A typical fireplace poker is a rod-shaped instrument having a first end portion and a second end portion, wherein the first end portion is adapted to be grasped by the user's hand, and wherein the second end portion of the poker is adapted to move the logs and other fuel items around. Often, the second end portion of the fireplace poker is equipped
10 with a hook portion to assist in giving the user added leverage over the movement of the fuel source as controlled by the user. Such fireplace pokers according to the aforesaid prior art are quite common.

Another tool which has found great utility over the years is known as the fireplace bellows. A bellows is a device for delivering quantities of air to embers in a fireplace for
15 purposes of aiding in the combustion rate, for example during the starting of a fire, and they function to increase the amount of oxygen present at the embers. The use of bellows have also found common usage in forges, to increase the temperature of the fire to enable iron to be more readily wrought during the metalworking process, such as in the manufacture of swords, horseshoes, chains, body armor, and other metallic wares. A
20 common bellows comprises two halves, which may be two pieces of wood or other material which are hingedly attached to one another and which have a bladder bag that is often comprised of leather disposed between the two halves. The bladder bag is provided with a one-way valve which admits air while the two halves are pulled apart, and which

closed when the two halves are put together again. The air contained within the bladder bag is expelled through an opening in the bladder bag upon closure of the two halves upon their being forced towards one another. This is well known to those skilled in the art.

5 Thus, the fireplace bellows and the fireplace poker have historically been two separate implements, which require two separate locations and provisions for their storage in and about a fireplace setting, and associated movements on behalf of the users of these devices.

10 The present invention provides a fireplace poker, which has the dual function of also being able to provide increased amounts of air to embers within a fireplace by the user, delivered from the user's lungs in a single fast and easy motion, and thus alleviating the necessity for having two separate implements for providing adjustment of the location of fuel stock within the fireplace and for providing increased amounts of air to the embers.

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Summary of the Invention

The present invention provides a fireplace poker which comprises a substantially linear hollow shaft portion, which has a first end portion and a second end portion. The first end portion includes a handle means, and the second end portion comprises a hook means, for manipulating logs and other solid fuel within the fireplace. A fireplace poker according to one form of the invention also includes an opening disposed at the first end portion and an opening disposed at the second end portion. According to one form of the invention the cross sectional diameter of the opening disposed at the second end portion is less than the cross sectional area of the opening disposed at the first end portion.

According to one form of the invention, the shaft portion comprises two tubular sections which are connected to one another by means of a connector. It is preferable that the handle means includes a material selected from the group consisting of: a ceramic material, wood, or metal.

Brief Description of the Drawings

In the annexed drawings:

5 **FIG. 1** shows a side perspective view of a fireplace poker according to one form of the invention;

FIG. 2 shows an exploded view of components used to provide a fireplace poker according to one form of the invention;

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FIG. 3 shows a perspective view of a coupling useful in providing a poker according to one form of the invention;

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FIG. 4 shows a perspective view of a spacer useful as a handle means element in providing a poker according to one form of the invention; and

FIG. 5 shows a side view of the head of a poker according to an alternate form of the invention.

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Detailed Description

Referring to the drawings, and initially to **FIG. 1** there is shown a side perspective view of a fireplace poker according to one form of the invention. There is a shaft portion

5 **29**, which is substantially linear and which is hollow, and which shaft portion has a first end portion that includes a handle means comprising the elements **3**, **5**, **7** and a second end portion which includes a hook means **13** for manipulating logs and the like. The hollow shaft portion enables the user of a poker according to the invention to blow air from their lungs into hole **16** disposed on the handle portion, which air then travels

10 through the hollow portion of the shaft and exits the poker at hole **32** that is disposed at the second end portion of the shaft **29**. It is preferred in one form of the invention that the cross-sectional diameter of the hole **32** at the second end portion of the shaft **29** is smaller than the cross-sectional diameter of the hole **16** disposed at the first end portion of the shaft, to enable the velocity of the air which exits the shaft at the hole **32** to sufficient to

15 enhance the combustion of a fuel in the fireplace to a greater degree than would otherwise be caused by typical blowing by a person's lungs directed towards the same embers. This is accomplished readily according to one form of the invention by having a flow restricting tip portion **11** attached at the second end portion of the shaft **29**, which tip portion **11** includes an orifice that is smaller than the hole **16** at the first end portion of the

20 poker.

Also shown in **FIG. 1** is an insulative handle means, which in this embodiment includes a material that does not readily conduct heat, such as a ceramic or wood; however, metal handle means are also useful in accordance with the present invention.

Any wood is suitable, and various ceramics comprising oxides of alumina, oxides of silicon or other ceramic materials known in the art are also suitable for a handle means according to the present invention. In one embodiment, the handle means includes a plurality of individual pieces of elements **3** having a hole disposed therein which enables them to be disposed about the shaft, which in one form of the invention is circular in cross section. However, alternate embodiments of the invention include different shaft cross sections, including without limitation oval, square, rectangular, etc. The handle means elements **3** in one form of the invention are spherical wooden or ceramic beads disposed about the shaft **29**. In another embodiment, the elements **3** are all connected to one another and thus comprise a single unit. An insulative handle means useful on a poker according to an alternate form of the invention comprises a single sheath which is disposed about the shaft **29**.

The portion of the handle means comprising element **5** and **7** in one form of the invention are a hollow spherical bead comprising a bore. When the handle means comprises individual beads **3**, **5**, and **7** disposed about the shaft **29**, they may be held in place by any conventional means, including adhesives. However, according to one preferred form of the invention the beads **5** and **7** are rigidly attached to the shaft and the inner beads **3** are slidably mounted on the shaft and are held in place by the beads **5** and **7** which are sandwiched therebetween, and one method for accomplishing such an arrangement is shown in the exploded view of **FIG. 2**.

In **FIG. 2** is an alternate form of the invention in which the shaft **29** comprises a plurality of elements **9**, **17**, and **19**. In this embodiment, a longest shaft element **9** is connected to a shorter shaft element **19** by means of a coupling element **17**. In such an

embodiment, the longest shaft element comprises a tube which comprises threads at each of its ends. The coupling element 17 may comprise a tube comprising a bore through its interior which is threaded and is thus adapted to mate with the threads on the ends of the longest shaft element 9, or may alternately comprise a bead such as 7 (**FIG. 3**) which includes a threaded bore whose threads are adapted to mate with the threads on the ends of the longest shaft element 9. The shorter shaft element 19 in one embodiment also comprises a tube having threads disposed on its end portions. Thus, the coupling element 17 connects the longest shaft element 9 to the shorter shaft element 19 to one another to provide the shaft. A substantially non-heat conductive handle means may then be disposed about the shorter shaft element 19, which may abut against the coupling element 17 by virtue of the cross section of the coupling element being larger than the cross section of the shorter shaft element. Such an arrangement stops the sliding motion of the handle means down the shaft beyond the coupling element 17. In this embodiment, there is also an end cap portion 21, which comprises a threaded bore having threads which are adapted to mate with the threads on the shorter shaft element 19 which are not in contact with the coupling element 17. In this way the handle means may abut against the end cap portion 21 by virtue of the cross section of the cap portion 21 being larger than the cross section of the shorter shaft element. Thus, the non-heat conductive handle means is disposed about the shorter shaft element 19 between the cap portion 21 and the coupling element 17. In one embodiment, the cap portion 21 comprises a spherical bead 5 (**FIG. 1**) having a threaded bore.. All embodiments of the present invention, including those in **FIG. 1** and **FIG. 2** include a hook means 13 attached to the second end portion of the shaft 9 or 29, for manipulating logs and other items within the fireplace. The hook

portion **13** may take on any configuration and in one embodiment includes an L-shaped portion as shown in **FIG. 1** and **FIG. 2**. The hook means **13** may be attached to the shaft portion using any conventional means, such as welding. In one embodiment, the hook means is a separate unit which comprises a hole as shown in **FIG. 2**, which may be slid
5 onto the shaft portion to a location at the second end portion of the shaft that is dictated by a stop on the shaft **9**, or a set screw disposed in a bore in the shaft which bore has its axis extending in a direction perpendicular to the length dimension of the shaft **9**. The restrictor element **11** is then screwed onto the threads on the shaft **9**, to rigidly hold the hook means in position. In one preferred form of the invention, the hook means is
10 welded to the shaft.

An alternate form of the invention includes a shaft portion **9** which comprises a hollow tube having threads on each of its ends to which a hollow handle having a bore disposed through its entire length is screwed on to one end of the shaft portion **9**, and also includes a flow restrictor **11** screwed onto the remaining end portion of the shaft portion
15 **9**, which flow restrictor **11** includes an opening having a cross section that is less than the cross section of the hollow portion within the shaft **9**, to enable the air that is blow into the shaft **9** to have a greater velocity when exiting the flow restrictor **11** than it does when it is traveling through the shaft **9**.

FIG. 3 shows a perspective view of a coupling useful in providing a poker
20 according to one form of the invention. This coupling is useful itself as the handle means, or is also useful in conjunction with other elements as previously described as a stop for one or more other elements which comprise the handle means.

FIG. 4 shows a perspective view of a spacer useful as a handle means element in providing a poker according to one form of the invention, which is a substantially spherical wooden, ceramic, or metallic bead having a bore disposed throughout its construct that enables it to be slid over the shaft element of the invention.

5 **FIG. 5** shows a side view of the head of a poker according to an alternate form of the invention. In this figure, **29** represents the shaft portion, **11** depicts the restricting tip portion having hole **32** disposed at its end, and there are a plurality of hook means **13**.

Consideration must be given to the fact that although this invention has been described and disclosed in relation to certain preferred embodiments, obvious equivalent
10 modifications and alterations thereof will become apparent to one of ordinary skill in this art upon reading and understanding this specification and the claims appended hereto. The present invention further includes all possible combinations of the features recited in any one of the various claims appended hereto with the features recited in any one or more of each of the remaining claims. Accordingly, the presently disclosed invention is
15 intended to cover all such modifications, alterations, and combinations.